

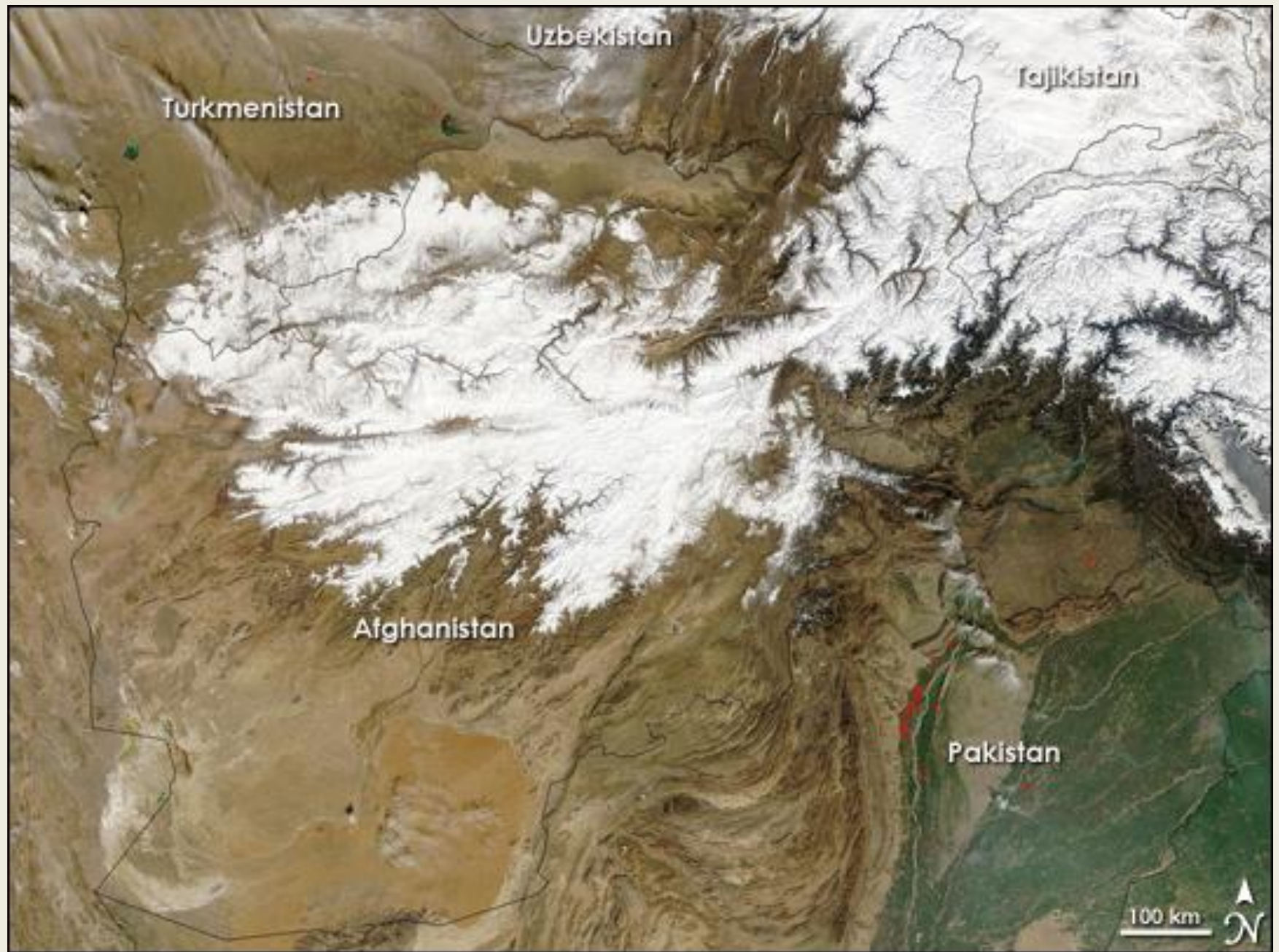
# Water Resources in Remote, Sparsely Gauged, Snow-Dominated Mountain Basins

Jeff Dozier, UCSB  
&  
Bert Davis, CRREL  
2012-Sep-05



**US Army Corps  
of Engineers**  
Engineer Research and  
Development Center







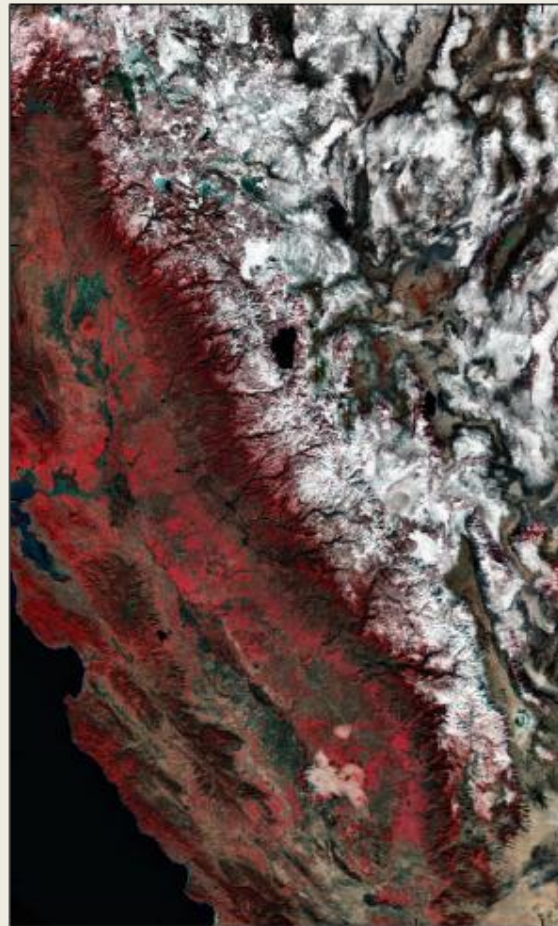
# Fractional snow-covered area, Sierra Nevada (MODIS images available daily)

MODIS, 19 Jan 2008

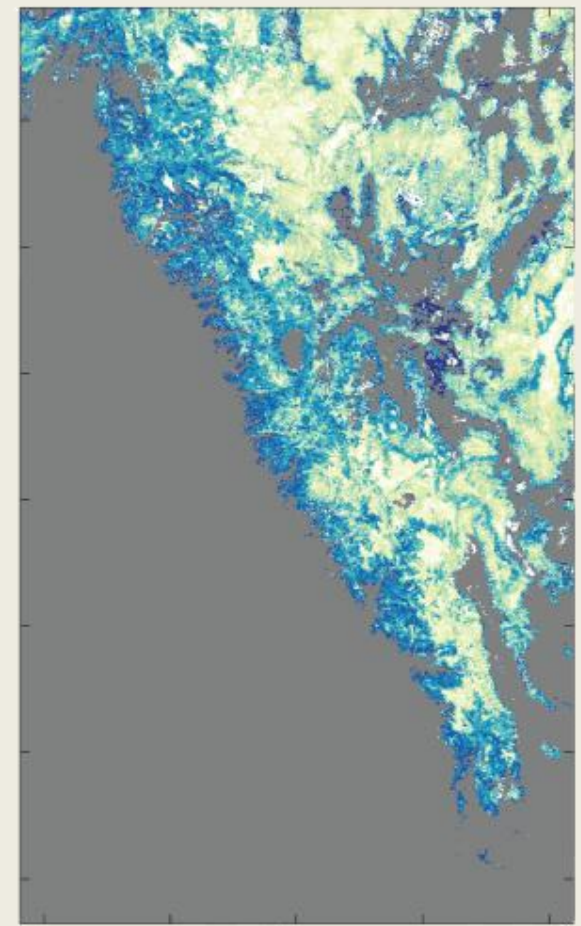
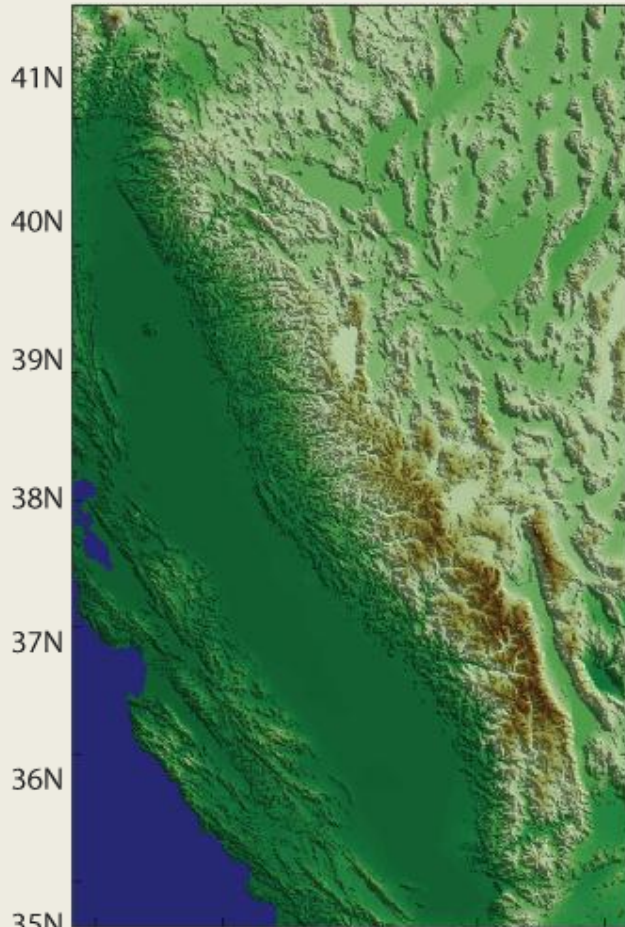
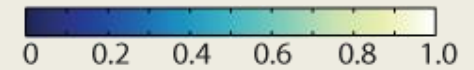
Elevation, m



Bands 2,4,3 (RGB)



Fractional snow-covered area



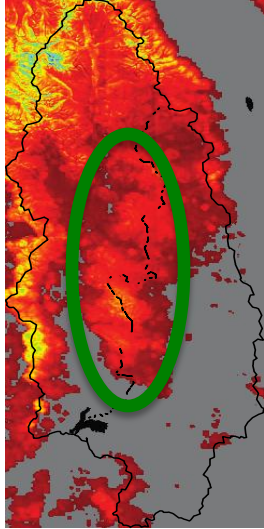
122W 121W 120W 119W 118W

122W 121W 120W 119W 118W

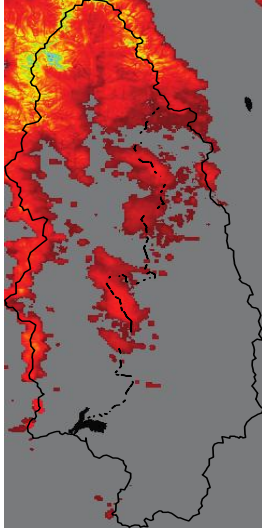
122W 121W 120W 119W 118W

# Reconstructed SWE, dry and wet years

March 01, 2007



April 01, 2007



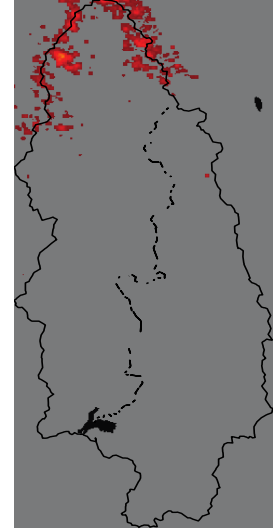
May 01, 2007



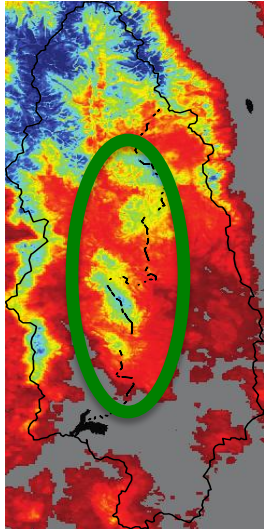
June 01, 2007



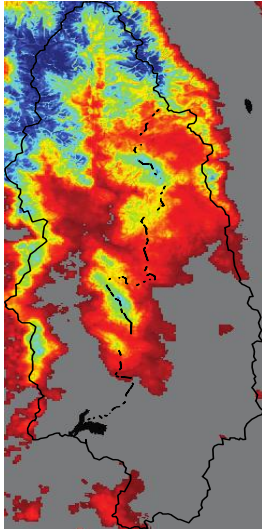
July 01, 2007



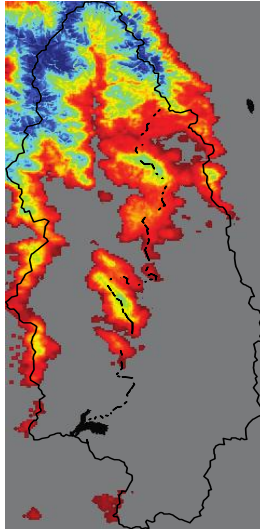
March 01, 2011



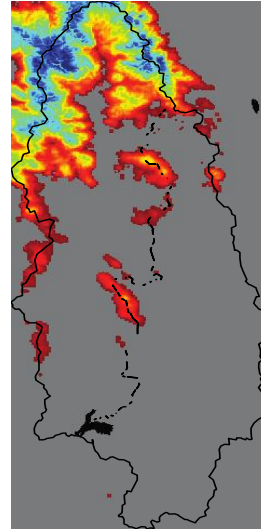
April 01, 2011



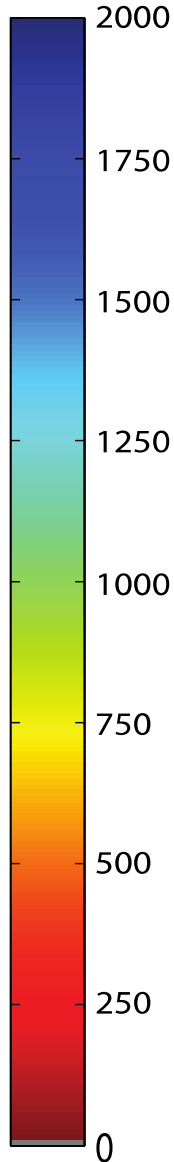
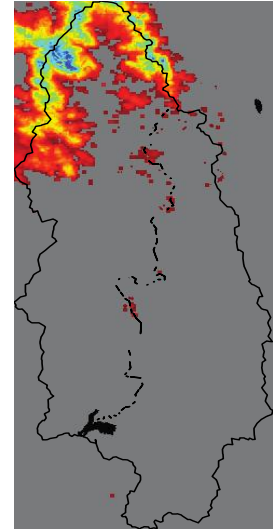
May 01, 2011



June 01, 2011

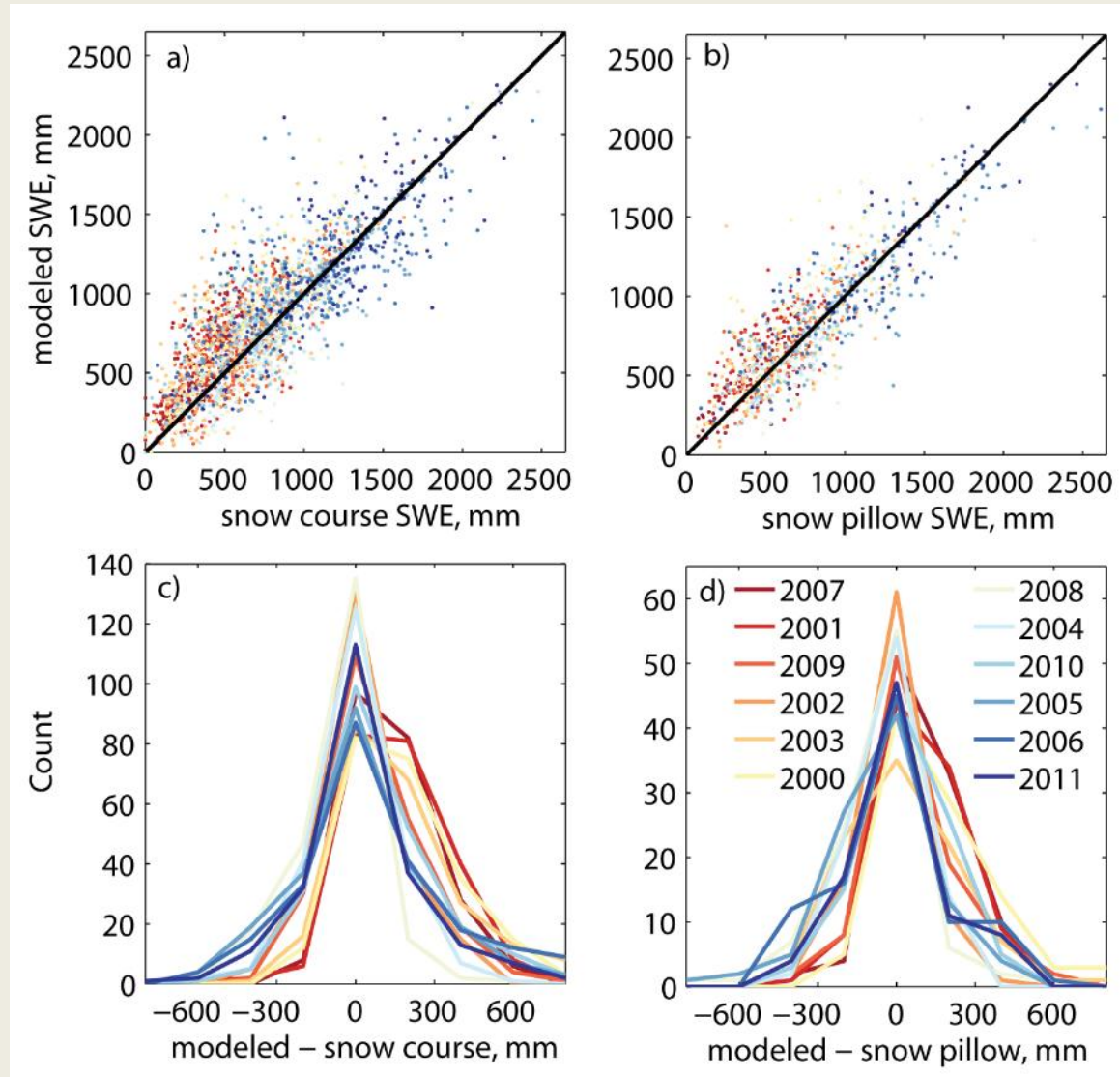


July 01, 2011

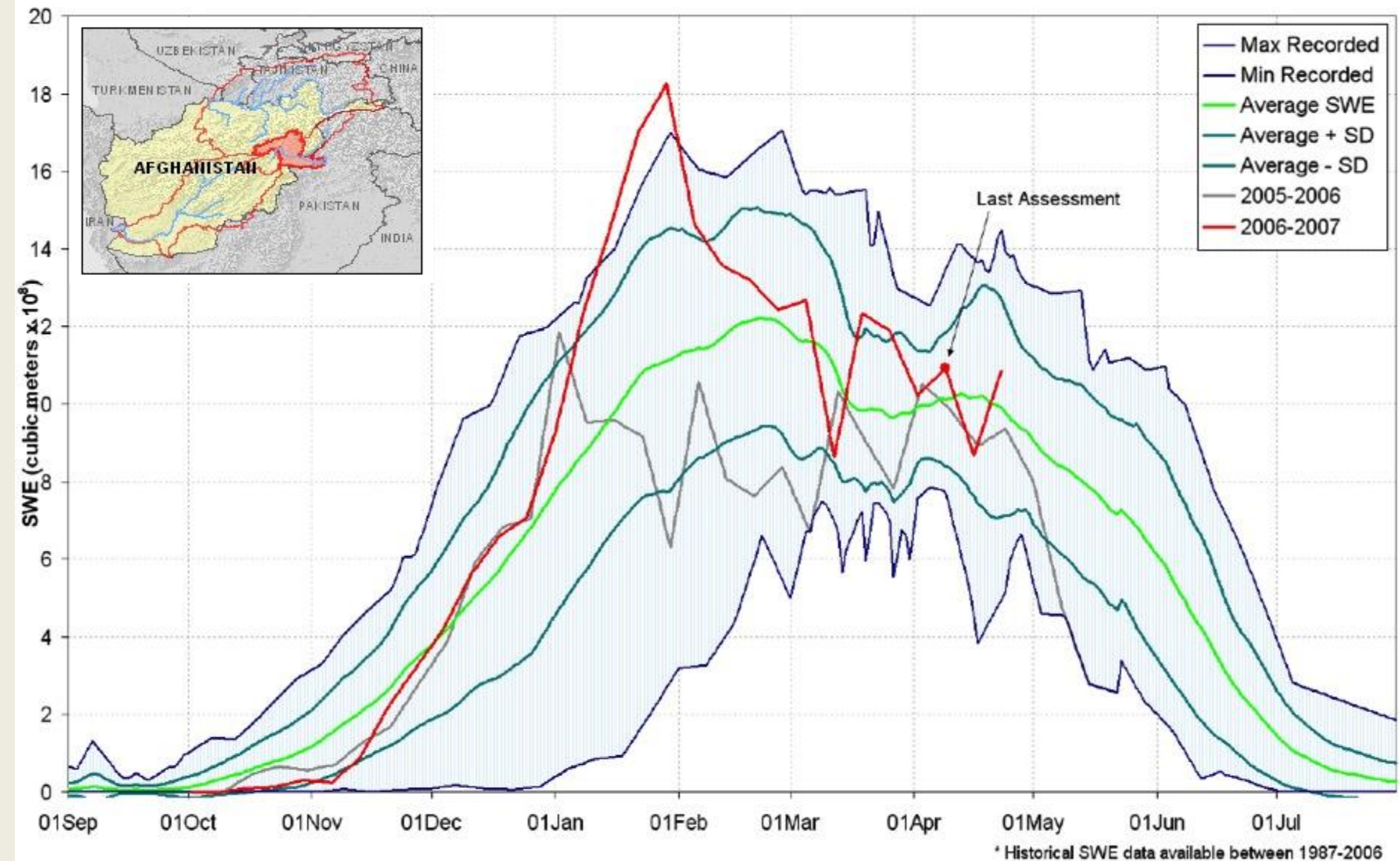




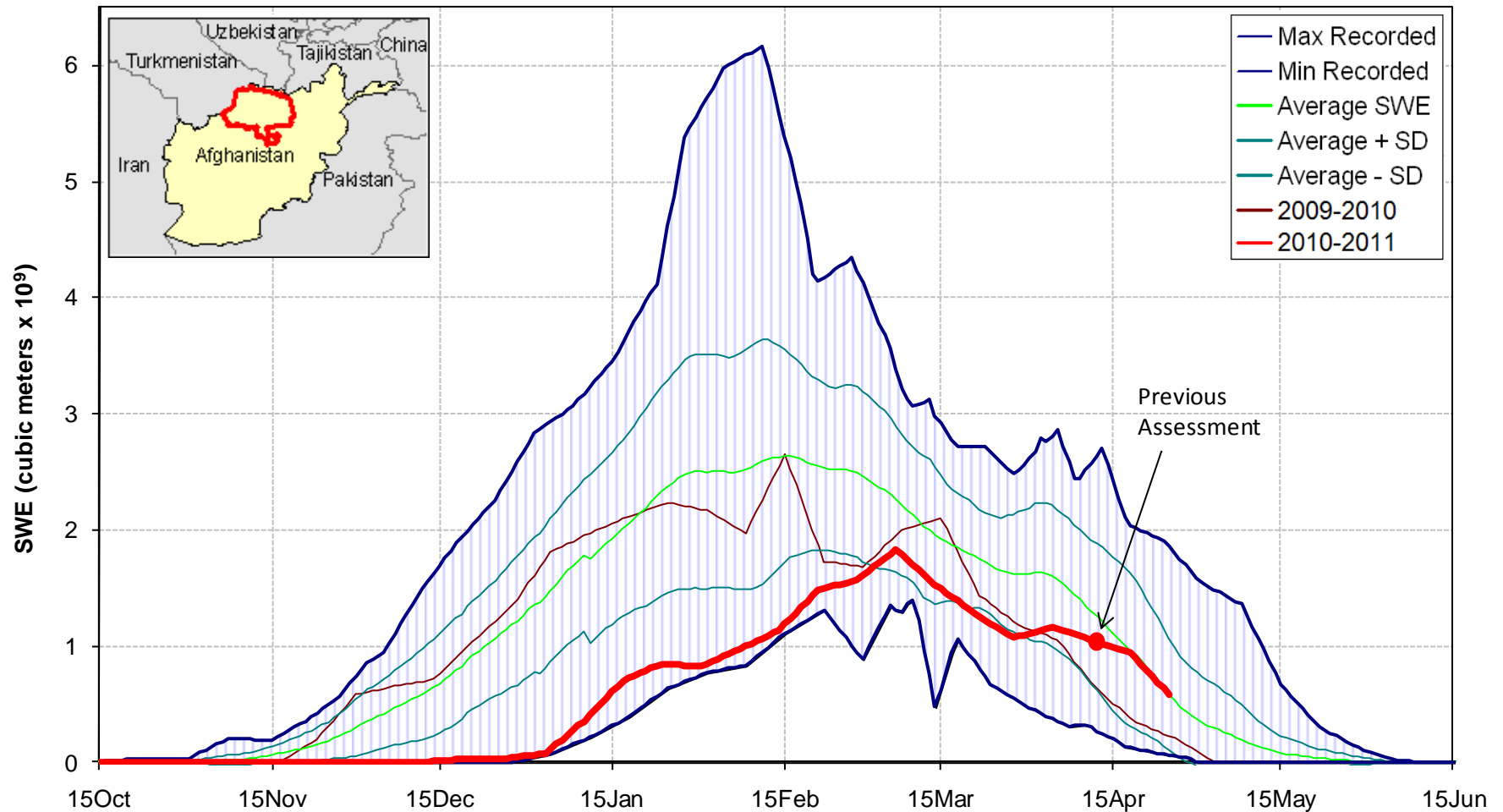
# Validation of snow water equivalent



# Lower Kabul Watershed



# Northern Water Volume and Outlook

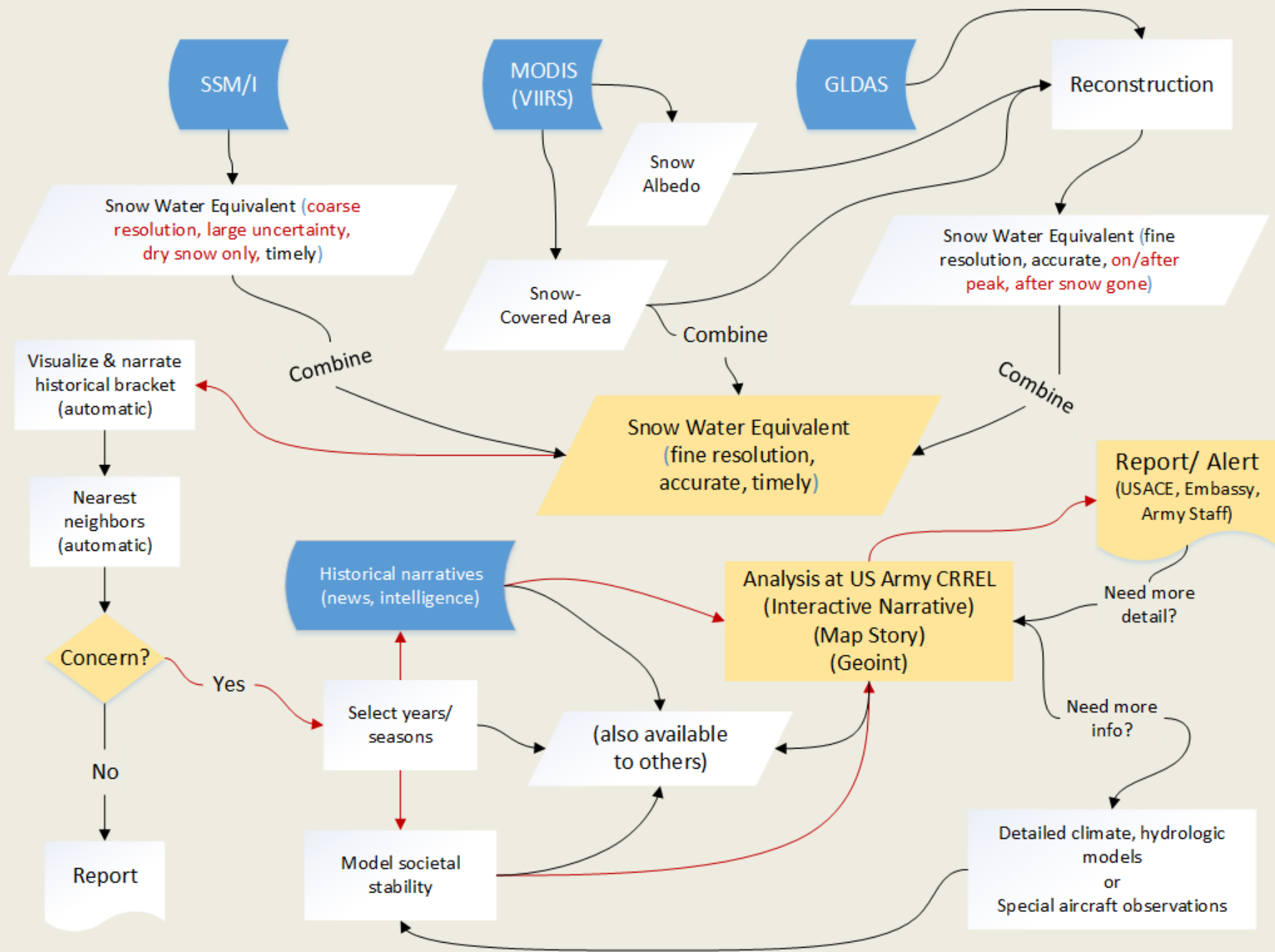


## News item from IRIN (UN)

<http://www.irinnews.org/Report/93781/Analysis-Afghan-drought-conditions-could-spell-disaster>

KABUL, **21 September 2011** (IRIN) – “The current dry spell sweeping across Afghanistan’s northern, northeastern and western provinces could lead to a large-scale food crisis and the humanitarian community should act quickly to ensure this does not degenerate into a disaster, government and aid officials warn.”





# Relationship between snow cover and SWE

